MODELING A COMPUTE ASSISTED INSTRUCTION FOR ABDOMINAL SURGICAL PATIENTS

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INTRODUCTION

Patient education is a key component of health care. Nurses teach to improve the patient's level of understanding, knowledge, attitudes, and skills. This knowledge enhances the self-care abilities of the clients and promotes their health.

As a self-directed learning strategy, Computer Assisted Instruction (CAI) transfers the responsibility for the patient's education from the nurse to the patient. Therefore, a self-care focus is maintained and supported.

Research has investigated the use of CAI in patient teaching. A survey of this literature suggests that CAI impacts on patient education in the following ways:

1. CAI can be utilized, whenever the learner is ready or available to learn.
2. CAI provides instruction in a manner that can be viewed as infinitely patient, consistent, and tireless.
3. CAI allows privacy to overcome learning barriers due to embarrassing or sensitive content.
4. CAI enables the learner to proceed at his/her own pace and permits review of any sections which are not fully understood.
5. An interactive CAI program provides immediate feedback and specific reinforcement that is critical to effective and efficient learning.
6. CAI integrates graphics, sound, animation, and color to make the user interface friendly, entertaining, and well accepted.
7. CAI enables learner control and ensures the learner's active participation to enhance the learning process.
8. CAI helps ensure that standardized instruction is presented to every patient.
9. CAI can effectively supplement the time of health professionals, and therefore decrease personnel costs (1,2,3).

There are commercial CAI programs for patient teaching that focus on Diabetes and Renal disease. Little development has been done for general surgical patients who represent a large population served by health care providers (4). Preoperative teaching has been discussed in the literature since 1970. Teaching enhances the patient's understanding of postoperative regimens, decreases anxiety and postoperative complications, and promotes rapid recovery. Lindeman and Van Aernam (5) found structured preoperative teaching increased the adult surgical patient's ability to cough and deep breathe. CAI fits well into formulating a structured teaching tool for the pre-op patient. Surgical patients were, therefore, chosen as the target population to standardize pre-op teaching materials and improve post-op status.

PROJECT METHODOLOGY

The CAI program was developed under a Microsoft Windows® environment using Asymetrix Toolbook® 1.53, an object-oriented hypermedia program. The program includes a runtime version which allows for ease in transport.

The format is an interactive tutorial of sequential instructional content accessible in a non-linear manner. Using Gagne's nine events of instruction as a framework (6), contents relating to pre- and post-op activities (lab tests, consent forms, exercise, infection prevention, diet, and medication considerations) are presented. Patients choose the area of interest or skip areas that they already know. Use of color, graphics, and animation attracts the learners' attention.

Content is based on accepted health care practice. Evaluation and recommendations by nursing experts, instructional specialists, and patients further strengthened the program.

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